State of Oregon
Department of
Environmental
Quality

# STANDARD
# AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Northwest Region
2020 SW 4th Avenue, #400
Portland, Oregon 97201
(503) 229-5554

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Cascade Kelly Holdings, LLC
dba Columbia Pacific Bio-Refinery
81200 Kallunki Road
Clatskanie, OR 97016

INFORMATION RELIED UPON:

Application No.: 027492
Date Received: 08/29/2013

PLANT SITE LOCATION:
Columbia Pacific Bio-Refinery
Transloading Facility
81200 Kallunki Road
Clatskanie, OR 97016

LAND USE COMPATIBILITY FINDING:

Approving Authority: Columbia County
Approval Date: 10/08/2013

**ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

David Monro, Northwest Region Air Quality Manager Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

| Table 1 Code | Source Description | SIC (NAICS) |
|---|---|---|
| Part B, 48 | Marine Vessel Petroleum and Ethanol Loading and Unloading | 5171, 5169, 4491 (424710) (424690) (488320) |
| Part C, #4 | Sources subject to a NSPS – Subpart Kb for Standards of Performance for Volatile Organic Liquid Storage Vessels | |

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# 1.0 GENERAL EMISSION STANDARDS AND LIMITS

**1.1. Visible Emissions** Emissions from any air contaminant source must not equal or exceed 20% opacity for a period aggregating more than 30 seconds in any one hour.

**1.2. Particulate Matter Emissions** Particulate matter emissions from any air contaminant source must not exceed 0.1 grains per standard cubic foot.

**1.3. Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions by:

a. Treating vehicular traffic areas of the plant site under the control of the permittee.

b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.

c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.

**1.4. Particulate Matter Fallout** The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. DEQ will verify that the deposition exists and will notify the permittee that the deposition must be controlled.

**1.5. Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel.

**1.6. Fuel Usage** The permittee must not use any fuel other than natural gas, propane or butane in the facility's Marine Vessel Loadout Vapor Combustion Unit.

# 2.0 SPECIFIC PERFORMANCE AND EMISSION STANDARDS

**2.1. NSPS Subpart A - General Provision Requirements** The permittee must comply with all provisions of 40 CFR 60 Subpart A – NSPS General Provisions, as applicable, adopted herein by reference.

**2.2. NSPS Subpart Kb - Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels for Which Construction, Reconstruction or Modification Commenced after July 23, 1984**

The permittee must comply with all applicable provisions of 40 CFR Subpart Kb, including but not limited to the following, for each affected storage vessel (Note – refer to 40 CFR Subpart Kb and/or Subpart A for definitions of terminology stated in this condition. The following summarizes the applicable requirements of Subpart Kb, but is not intended to supersede the Subpart):

a. NSPS Subpart Kb – Applicability

i. Subpart Kb is applicable to Volatile Organic Liquid (VOL) "storage vessels." Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids.

ii. VOL storage vessels does not include "process tanks" or "pressure vessels:"

iii. Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. Process tanks may be utilized in unit operations activities such as reactions, blending, surge control vessels and bottoms receivers.

b. 40 CFR § 60.112b Standard for volatile organic compounds (VOC)

i. The permittee must equip each fixed-roof storage vessel that is subject to this standard (vessels ≥39,890 gallons that contain a VOL with maximum true vapor pressure of at least 5.2 kPa (0.75 psia) but <76.6 kPa (11.12 psia) or vessels ≥75 $m^3$ (19,813 gallons) but <151 $m^3$ (39,890 gallons) and containing a VOL with maximum true vapor pressure of at least 27.6 kPa (4.0 psia) but <76.6 kPa (11.12 psia) as follows:

2.2.b.(i)(a) Each storage vessel must have a fixed roof in combination with an internal floating roof meeting the following specifications:

2.2.b.(i)(a)(1) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

2.2.b.(i)(a)(2) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

2.2.b.(i)(a)(2)1) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

2.2.b.(i)(a)(2)2) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

2.2.b.(i)(a)(2)3) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

2.2.b.(i)(a)(3) Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

2.2.b.(i)(a)(4) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

2.2.b.(i)(a)(5) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is

floating except when the roof is being floated off or is being landed on the roof leg supports.

2.2.b.(i)(a)(6) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

2.2.b.(i)(a)(7) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

2.2.b.(i)(a)(8) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

2.2.b.(i)(a)(9) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

**2.3. Volatile Organic Liquid Throughput Limitation**

The permittee is prohibited from exceeding 1,839,600,000 gallons of combined volatile organic liquid product throughput per year, as determined at point of product receipt (e.g., railcar offloading). **Volatile organic liquid products allowed under this permit are crude oil and ethanol.**

**2.4. Volatile Organic Liquid TVP Limitation**

The permittee is prohibited from storing volatile organic liquid product with a monthly average true vapor pressure of 76.6 kPa (11.12 psi) or greater.

**2.5. Marine Vessel Loading Vapor Collection**

The permittee must comply with the following marine vessel loading vapor collection requirements:

a. The permittee must design and operate its marine vessel vapor collection system to collect displaced VOC vapors during the loading of marine tank vessels.

b. The permittee is prohibited from loading volatile organic liquid product onto any marine vessel that is not equipped with a compatible vapor collection system.

c. All displaced VOC vapors collected during any loading event must be vented only to the in service control device.

d. All hatches, pressure relief valves, connections, gauging ports and vents associated with the loading of volatile organic liquid product onto marine tank vessels must be maintained to be leak free and vapor tight at the time of loading.

e. The permittee must document prior to loading of any marine tank vessel that the vessel is vapor tight using one of the methods in i. through iv. below. The same method need not be used for all marine tank vessels loaded. A "vapor-tight marine vessel" means a marine tank vessel that has demonstrated within the preceding 12 months to have no leaks. A marine tank vessel loaded at less than atmospheric pressure is assumed to be vapor tight for the purpose of this condition.

i. *Pressure test documentation for determining vapor tightness of the marine vessel.* The permittee must maintain on site a copy of vapor-tightness pressure test documentation for each marine tank vessel loaded. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in 40 CFR §63.565(c)(1). The permittee must maintain vapor-tightness pressure test documentation for marine tank vessels loaded at positive pressure.

ii. *Leak test documentation for determining vapor tightness of the marine vessel.* The permittee must maintain on site a copy of leak test documentation for each marine tank vessel loaded. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in 40 CFR §63.565(c)(2). The permittee must maintain vapor-tightness leak test documentation for marine tank vessels loaded at positive pressure.

iii. *Leak test performed during loading using Method 21 for determining vapor tightness of the marine vessel.* If no pressure test or leak test documentation of vapor tightness is available, and the permittee is not engaged in negative pressure loading, the permittee must perform a leak test on the marine tank vessel during marine tank loading operations using the procedures described in 40 CFR §63.565(c)(2). The permittee must maintain records of the leak test documentation for any marine tank vessels loaded at positive pressure using this compliance option. If a leak is detected, that marine tank vessel may not be loaded again at the terminal until the marine tank vessel is demonstrated to be vapor-tight.

iv. *Negative pressure loading.* The permittee must ensure that a marine tank vessel is loaded with the product tank below atmospheric pressure (i.e., at negative gauge pressure). The pressure shall be measured immediately downstream of the dock safety unit and the measured pressure must be below atmospheric pressure. Marine tank vessel loading operations must be performed below atmospheric pressure (i.e., at negative gauge pressure) in the product tank.

2.5.e.(iv)(a)(1) If the permittee utilizes negative pressure loading, it must install, calibrate, maintain, and operate a recording pressure measurement device (magnehelic gauge or equivalent device) and an audible and visible alarm system that is activated when the pressure vacuum is less than 1/2 inch of water. The permittee shall place the alarm system so that it can be seen and heard where cargo transfer is controlled. The pressure shall be measured immediately downstream of the dock safety unit and the measured pressure vacuum must be no less than 1/2 inch of water.

2.5.e.(iv)(a)(2) The permittee shall verify the accuracy of the pressure vacuum measurement device once each calendar year with a reference pressure monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent pressure measurement device dedicated for this purpose).

2.5.e.(iv)(a)(3) If measured pressure vacuum drops below 1/2 inch of water, then the permittee must take immediate corrective action to return the negative pressure to 1/2 inch of water or above.

2.5.e.(iv)(a)(4) The permittee shall maintain a log in which it must identify each time that the pressure drops below 1/2 inch of water during marine tank vessel loading operations, the corrective action taken and the duration of the period of marine tank vessel loading operations where negative pressure was below 1/2 inch of water.

2.5.e.(iv)(a)(5) Having the negative pressure go below 1/2 inch of water during marine tank vessel loading operations is not a violation of this permit. However, the failure to log the event or to take immediate corrective action may constitute a violation of this permit.

f. The permittee shall maintain a documentation file for each marine tank vessel loaded at the source and for which the pressure test or leak test compliance option is relied upon. Updates to this documentation file shall be made at least once per year. The permittee shall include, as a minimum, the following information in this documentation:

i. Test title;

ii. Marine vessel owner and address;

iii. Marine vessel identification number;

iv. Testing location;

v. Date of test;

vi. Tester name and signature;

vii. Test results.

g. The permittee shall maintain a documentation file of each calibration and accuracy verification performed if/when the negative pressure loading option is relied upon. Updates to this documentation file shall be made at least once per year. The permittee shall include, as a minimum, the following information in this documentation:

i. Test title;

ii. Date of test;

iii. Testing location;

iv. Documentation of reference pressure monitor standard;

v. Test results.

h. A leak under this condition shall mean a reading of 10,000 parts per million volume (ppmv) or greater as methane that is determined using Method 21, 40 CFR 60, Appendix A.

**2.6. Lightering of Volatile Organic Liquid Products**

The permittee is prohibited from performing or allowing lightering of volatile organic liquid products from marine vessels moored at its dock.

**2.7. Vapor Combustion Unit Operating Conditions**

Vapor Combustion Unit EU02 (VCU) must be designed and operated as follows:

a. The exhaust stack of the VCU must be designed and configured to comply with EPA's test Method 1 and appropriately equipped with sample ports for sample and velocity traverses while source testing.

b. A temperature monitoring system must be installed to continuously monitor and record the operating temperature in the combustion zone of the VCU. Temperature data points must be logged at least every 5-minutes, during all hours of device operation.

c. The operating temperature of the VCU must be maintained as follows:

i. Prior to performance of the initial source test, the operating temperature of the VCU must be maintained at a minimum of 2200 °F;

ii. After the performance of the initial source test, the operating temperature of the VCU must be maintained at a minimum of the average operating temperature recorded during the most recent valid source test.

iii. The above operating temperatures are based on a one hour average.

d. The VCU must be operated at all times when marine vessel loading is being performed.

e. The VCU must be equipped with a process interlock that halts volatile organic liquid loading during VCU malfunction or upset condition events.

f. The permittee is prohibited from combusting more than 1,012,457 MMBtu/yr (10,946,000 gallons) of propane per year in Vapor Combustion Unit EU02.

**2.8. VCU Visible Emissions Monitoring**

The permittee must regularly perform visible emissions determinations of the VCU's stack exhaust gas emissions, as specified below:

a. Visible emissions monitoring must be performed in accordance with the procedures of EPA Method 22 (non-certified reader method) following the following schedule.

i. Daily Method 22 Testing - Perform a visual emissions determination once per day, on each day the process is in operation.

ii. Weekly Method 22 Testing - If no visible emissions are detected in 10 consecutive daily Method 22 tests, the permittee may decrease the frequency of testing to once each calendar week. If visible emissions are detected during a weekly test, a daily testing schedule must be resumed until 10 consecutive daily tests are again recorded during which no visible emissions are detected.

iii. Monthly Method 22 Testing - If no visible emissions are detected in 8 consecutive weekly Method 22 tests, the permittee may decrease the frequency of testing to once each calendar month. If visible emissions are detected during a monthly test, a weekly testing schedule must be resumed

until 8 consecutive weekly tests are again recorded during which no visible emissions are detected.

b. Conduct each Method 22 test while the facility is operating under normal conditions.

c. The duration of each Method 22 test must be at least 15 minutes.

d. Visible emissions will be considered to be present if detected for more than three minutes of the fifteen minute period.

e. If visible emissions are detected:

i. Perform corrective actions until the visible fugitive emissions are eliminated.

ii. After completing the corrective action, perform a follow-up EPA Method 22 inspection for visible emissions. Conduct the test while operating under normal conditions.

iii. Notify DEQ (see Condition 8.4) of any visible emissions incident that cannot be remedied within 4 hours of its onset.

iv. Notify DEQ of any period of visible emissions incidents amounting to 4 hours or more in any calendar week.

v. The notification requirements identified above must be made within 60 minutes of the triggering event.

f. If visible emissions are observed at any time outside of the normal observation schedule it is the permittee's responsibility to treat the incident as a monitoring event in accordance with the corresponding schedule to which the permittee is subject and follow procedures identified above.

**2.9. Vapor Recovery Unit Operating Conditions**

Until the VCU is installed and operational, the Vapor Recovery Unit (VRU) must be operated as follows:

a. The VRU must be operated at all times when marine vessel loading is being performed.

b. The VRU must be equipped with a process interlock that halts volatile organic liquid loading during VRU malfunction or upset condition events.

# 3.0 OPERATION AND MAINTENANCE REQUIREMENTS

**3.1. Process Leak Detection Program**

The permittee must implement a process component leak detection program that at a minimum includes the following performance requirements:

a. Monthly, the permittee must maintain all process associated pipes, ductwork, connectors, valves/flanges, pumps and compressors to be leak free and vapor tight. Leak free and vapor tight conditions are to be verified and achieved by complying with the following inspection and repair protocol:

i. The permittee must perform an inspection of the facility's VOL product receipt, loading and vapor collection associated components in volatile organic liquid product service;

ii. The monthly inspection is to be done by evaluating the components using Method 21;

iii. Each detection of a leak shall be recorded. A leak is detected whenever a measured concentration of 10,000 ppm or greater is detected;

iv. An attempt must be made to correct components identified to have recognized leaks within 5 calendar days. Components that cannot be repaired with the first attempt must be tagged and logged, noting the date of the identified leak;

v. Leaking components must be repaired within 15 days;

vi. Leaking components that are not repairable within the 15-day period must be reported to DEQ by 5:00 p.m. of the 15$^{th}$ day by phone, fax or e-mail. The report must identify the leaking component(s), the anticipated alternate repair period and the justification for an extended repair period.

vii. Leaking components that are taken out of service by isolation and bypass are not required to be reported to the Department as required by Condition 3.1.a.vi.

viii. The Department may require submission of an excess emission report in accordance with Condition 7.1 for reported leaking components.

**3.2. Standard Procedures for Marine Vessel Loading Events**

During each marine vessel loading event the permittee must follow the standard procedures titled "Barge Loading," "Completion of Barge Loading" and "PIC Dock Operations Finishing a Barge," as provided to DEQ. This information must be re-submitted to DEQ any time modifications are made to procedures affecting the permittee's Vapor Collection System.

**3.3. Vapor Recovery Unit O&M**

The permittee must operate and maintain the John Zink VRU in accordance with manufacturer's specifications while the unit is the in-service VOC abatement device for marine vessel loading. A copy of the manufacturer's O&M specifications must be maintained on-site and available for inspection and reference.

**3.4. Vapor Combustion Unit O&M**

The permittee must operate and maintain the Jordan CEB 4800 VCU in accordance with manufacturer's specifications while the unit is the in-service VOC abatement device for marine vessel loading. A copy of the manufacturer's O&M specifications must be maintained on-site and available for inspection and reference.

# 4.0 PLANT SITE EMISSION LIMITS

**4.1. Plant Site Emission Limits (PSEL)**

Plant site emissions must not exceed the following:

| Pollutant | Limit | Units |
|---|---|---|
| $PM/PM_{10}/PM_{2.5}$ | 9* | tons per year |
| $SO_2$ | 39 | tons per year |
| $NO_X$ | 39 | tons per year |
| CO | 99 | tons per year |
| VOC | 78 | tons per year |
| GHGs (CO2e) | 74,000** | tons per year |

*All emitted PM is presumed to be $PM_{2.5}$.

**note: GHG is expressed in standard tons (2000 lbs/ton) for PSEL compliance purposes; not metric tonnes as in GHG reporting requirements

**4.2. Emission Limitation Period**

The annual plant site emissions limits apply to any 12-consecutive calendar month period.

# 5.0 COMPLIANCE DEMONSTRATION

**5.1. NSPS Subpart Kb Testing Requirements** The permittee must perform testing of each storage tank subject to Subpart Kb in accordance with 40 CFR §60.113b:

a. § 60.113b Testing and procedures.

i. After installing the control equipment required to meet Condition 2.2.b.(i)(a) of the permit [§60.112b(a)(1)] (permanently affixed roof and internal floating roof), the permittee must:

5.1.a.(i)(a) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

5.1.a.(i)(b) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in Condition 7.2.a of the permit [40 CFR §60.115b(a)(3)]. Such a request for an extension must document that alternate storage capacity is unavailable and

specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

5.1.a.(i)(c) For vessels equipped with a double-seal system as specified in Condition 2.2.b.(i)(a)(2)2) of the permit [§60.112b(a)(1)(ii)(B)]:

5.1.a.(i)(c)(1) Visually inspect the vessel as specified in paragraph 5.1.a.(i)*(d)* of this section at least every 5 years; or

5.1.a.(i)(c)(2) Visually inspect the vessel as specified in paragraph 5.1.a.(i)*(b)* of this section.

5.1.a.(i)(d) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs 5.1.a.(i)(b) and 5.1.a.(i)(c)(2) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph 5.1.a.(i)(c)(1) of this section.

5.1.a.(i)(e) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs 5.1.a.(i)(a) and 5.1.a.(i)(d) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph 5.1.a.(i)(d) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

**5.2. PSEL Compliance Monitoring**

Compliance with the PSELs of Condition 4.1 is determined for each 12-consecutive calendar month period based on the following calculations (except GHG - see condition 5.4 for GHG PSEL compliance monitoring):

$$E_{12\text{-}Mo} = \sum \frac{(12-\text{consecutive } E_{Mo})}{2000}$$

$$E_{Mo} = \sum (P \times EF)$$

Where:

$E_{12\text{-}Mo}$ = emissions of an air pollutant in tons/yr for a respective 12-month period.

$E_{Mo}$ = emissions of an air pollutant (in lbs) for a respective calendar month period.

P = process monitoring parameter for the respective calendar month period identified (see Condition 12.0).

EF = emission factor identified for a process/monitoring parameter and pollutant (see Condition 12.0).

**5.3. Emission Factors** The permittee must use the default emission factors provided in condition 12.0 for calculating pollutant emissions, unless alternative emission factors are approved by DEQ. The permittee may request or DEQ may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by DEQ.

**5.4. Greenhouse gas emissions** The permittee must determine its GHG emissions in accordance with the methods/protocols identified in OAR 340-215.

**5.5. Source Testing** The permittee must conduct source testing of the facility's VOC abatement unit stack exhaust gas for compliance and emission factor verification. Testing must be performed as specified below:

a. Schedule of required tests:

i. The permittee must conduct an initial source test of the John Zink VRU within 90 days after permit issuance. During the test, the unit's stack exhaust gas must be tested for VOC and HAP emissions. Testing of the VRU is not required if the device will be replaced by the VCU within 6 months of permit issuance.

ii. The permittee must conduct an initial source test of the Jordan CEB 4800 VCU within 90 days after the VCU enters service. During the test, the unit's stack exhaust gas must be tested for $NO_X$, CO, and VOC emissions.

iii. Following completion of the initial performance testing identified above, the permittee must conduct subsequent source tests of the in-service VOC abatement unit once each calendar year. In each test the abatement unit's stack exhaust gas must be tested for the pollutants respectively identified above unless otherwise approved by DEQ. Tests are to be performed approximately one year from the most recent valid source test.

b. The Department may approve an extension of a testing deadline stated above if the permittee provides adequate justification for the extension. The Department may require an extension if the facility's operating capacity appears insufficient to provide representative emission data.

c. During the source tests, stack exhaust gas must be sampled while the facility is operating at approximately its maximum normal operating capacity.

d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If a test run is invalid for reasons beyond the control of the permittee, DEQ may accept two (2) test runs for emission factor verification or for demonstrating compliance with an emission limit or standard.

e. The following parameters must be monitored and recorded during the source test:

   i. Quantity (in gallons) of crude oil loaded;

   ii. VRU carbon bed cycle time;

   iii. Operating temperature of the VCU, expressed as one-hour averages;

   iv. Visible emissions (VCU only) as measured by EPA Method 9 for a period of at least six minutes during or within 30 minutes before or after each test run;

   v. Other facility/process operating parameters identified prior to the test.

f. Test results should report measured emissions as ppmvd, lb/hr, and lb/$10^3$ gallon of product loaded.

g. All tests must be conducted in accordance with the Department's Source Sampling Manual and the approved pretest plan. The pretest plan must be submitted at least 30 days prior to the intended test date and approved by the Regional Source Test Coordinator and/or Permit Writer. Test data and results must be submitted to DEQ for review within 45 days of test completion unless otherwise approved in the pretest plan. See Condition 8.4 for appropriate address to submit test plans/reports.

h. Only regular operating staff may adjust the combustion system or production processes and emission control parameters during the source test and within two hours prior to the source test. Any operating adjustments made during the source test, which are a result of consultation with source testing personnel, equipment vendors or consultants, may render the source test invalid.

| Tested Pollutant | Reference Test Method [1] |
|---|---|
| NOx | EPA Method 7E |
| CO | EPA Method 10 |
| VOC | EPA Method 18, 25, 25A |
| HAPs | Method TBD |
| Opacity | EPA Method 9 |

[1] Substitution of alternative test method(s) must be approved by DEQ.

# 6.0 MONITORING/RECORDKEEPING REQUIREMENTS

**6.1. NSPS Subpart Kb** The permittee must comply with all applicable monitoring and recordkeeping requirements of 40 CFR Subpart Kb (see § 60.116b Monitoring of operations and § 60.115b Reporting and recordkeeping requirements):

a. The permittee must keep readily accessible records showing the dimensions of each Subpart Kb subject storage vessel and an analysis showing the capacity of the storage vessel. **These records must be kept for the life of the respective source.**

b. For each Subpart Kb subject storage vessel, either with a design capacity greater than or equal to 39,890 gallons storing a liquid with a maximum true vapor pressure greater than or equal to 0.5 psi or with a design capacity greater than or equal to 19,813 gallons but less than 39,890 gallons storing a liquid with a maximum true vapor pressure greater than or equal to 2.2 psi , the permittee must maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

c. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below:

i. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

ii. For refined petroleum products the vapor pressure may be obtained by the following:

6.1.c.(ii)(a) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

6.1.c.(ii)(b) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

iii. For non-petroleum liquids, the vapor pressure:

6.1.c.(iii)(a) May be obtained from standard reference texts, or

6.1.c.(iii)(b) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

6.1.c.(iii)(c) Measured by an appropriate method approved by the Administrator; or

6.1.c.(iii)(d) Calculated by an appropriate method approved by the Administrator.

d. After installing the control equipment required to meet Condition 2.2.b.i of the permit [40 CFR §60.112b(a)(1)] (permanently affixed roof and internal floating roof), the permittee must keep a record of each inspection performed as required by permit Conditions 5.1.a.(i)(a) , 5.1.a.(i)(b) , 5.1.a.(i)(c) , and 5.1.a.(i)(d) (as applicable). Each record shall identify the storage vessel on which the

inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

**6.2. Continuous Monitoring - Vapor Combustion Unit EU02**

The permittee must continuously monitor and record the operating temperature in the combustion zone of the Vapor Combustion Unit EU02. Temperature data points must be logged at least every 5-minutes, during all hours of device operation. Monitored data must be reduced to demonstrate the average hourly operating temperature of the unit.

**6.3. Operation and Maintenance Monitoring- Recordkeeping**

The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:

| Monitored Parameter | | Monitoring Frequency |
|---|---|---|
| a. | Maintain a record of each marine vessel arrival and loading event including signed-off records of the standard operating procedures identified in Condition 3.2. | Each Event |
| b. | The permittee must maintain monitoring records for the Marine Vessel Loading Vapor Collection system as required in Condition 2.5. | As Required |
| c. | Quantity (gallons) and type of VOL received into storage (measurement not to include ethanol manufactured on site). | Monthly - Each Receipt |
| d. | Quantity (gallons) and type of VOL loaded onto marine vessels (measurement not to include ethanol manufactured on site). | Monthly |
| e. | Roof landing events for each VOL storage tank. | Each Occurrence |
| f. | Process tank (TK6151 and TK6152) degassing and refilling (after drawdown) events. | Each Occurrence |
| g. | Quantity of propane (gallons, MMBtu) combusted in Vapor Combustion Unit EU02. | Monthly |
| h. | The permittee must monitor and maintain records documenting the performance of each EPA Method 22 visible emissions test and any associated corrective actions performed, as required by Condition 2.8. | Daily/Weekly/Monthly per Condition |
| i. | Results of the monthly leak detection evaluation | Monthly |

| | | |
|---|---|---|
| | required in Condition 3.1.a:<br>i. Date of inspection;<br>ii. Findings – identification of leaking component, location, nature and severity (instrument reading) of each leak; or indicate no leaks;<br>iii. Corrective action - for each detected leak record the corrective action performed and date of repair;<br>iv. Maintain a record of each leaking component report submitted to DEQ as required by Condition 3.1.a.vi. | |

| | | |
|---|---|---|
| j. | Using the compliance calculation procedures from Condition 5.2, perform a calculation of emissions for each pollutant type for which there is a PSEL, to demonstrate compliance with the rolling 12-month PSEL limitations of Condition 4.1 (see Condition 6.3.k for GHG specific monitoring requirements). | Monthly |
| k. | The permittee must monitor and maintain records of fuel usage and other parameters sufficient to demonstrate compliance with the GHG PSEL and be able to determine emissions for any 12 consecutive month period(s). | Monthly |
| l. | Record of the monthly average True Vapor Pressure of each volatile organic liquid product stored consistent with Condition 6.1.b. | Monthly |
| m. | The permittee must maintain records of O&M activities performed in accordance with manufacturer's specifications for the John Zink VRU as required in Condition 3.3. | As Required |
| n. | The permittee must maintain records of O&M activities performed in accordance with manufacturer's specifications for the Jordan CEB 4800 VCU as required in Condition 3.4. | As Required |
| o. | Record major maintenance performed on air pollution control equipment. | Each Occurrence |

**6.4. Excess Emissions** The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process

upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must cease operation of the equipment or facility no later than 48 hours after the beginning of the excess emissions, unless continued operation is approved by DEQ in accordance with OAR 340-214-0330(4).

**6.5. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility.

The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

**6.6. Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to DEQ upon request.

# 7.0 REPORTING REQUIREMENTS

**7.1. Excess Emissions** The permittee must notify DEQ of excess emissions events if the excess emission is of a nature that could endanger public health.

a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 8.3 by email, telephone, facsimile, or in person.

b. If the excess emissions occur during non-business hours, the permittee must notify DEQ by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.

c. The permittee must also submit follow-up reports when required by DEQ.

**7.2. NSPS Subpart Kb** The permittee must submit the following Subpart Kb specific reports/notifications to the EPA Administrator and DEQ, as applicable:

a. If any of the conditions described in Condition 5.1.a.(i)(b) of the permit [40 CFR §60.113b(a)(2)] are detected during the required annual visual inspection, a report shall be furnished to the Administrator and DEQ within 30 days of

the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

b. After each inspection required by Condition 5.1.a.(i)(c) of the permit [40 CFR §60.113b(a)(3)] that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in Condition 5.1.a.(i)(c)(2) [§60.113b(a)(3)(ii)], a report shall be furnished to the EPA Administrator and DEQ within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the required specifications [of 40 CFR §61.112b(a)(1) or §60.113b(a)(3)] and list each repair made.

c. Provide notification to the EPA Administrator and DEQ in writing, in accordance with the criteria stated in Condition 5.1.a.(i)(e) , prior to the filling or refilling of each storage vessel for which an inspection is required by Conditions 5.1.a.(i)(a) and 5.1.a.(i)(d) a.

**7.3. Annual Report**

For each year this permit is in effect, the permittee must submit to DEQ by **February 15,** two (2) copies of the following information for the previous calendar year:

a. A statement of the facility's compliance status with the conditions of the permit for the calendar year. Any violations or exceedances must be explained in detail including corrective actions taken.

b. Quantity (gallons) of crude oil transloaded onto marine vessels.

c. Quantity (gallons) of ethanol (from external source - not manufactured on site) transloaded onto marine vessels.

d. Quantity (gallons) and type of other volatile organic liquids transloaded onto marine vessels.

e. Quantity of propane (gallons, MMBtu) combusted in the VCU.

f. A summary of the rolling 12-month PSEL emission rate calculations determined each month in accordance with Condition 6.3.j.

g. Provide a calculation of annual greenhouse gas emissions, performed in accordance with Condition 5.4 (identify method of calculation), to demonstrate compliance with

the GHG PSEL in Condition 4.1. This information may be reported separately (by March 31st) to coincide with GHG report requirements of OAR 340-215.

h. Records of all planned and unplanned excess emissions events.

i. Summary of complaints relating to air quality received by permittee during the year.

j. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.

k. List major maintenance performed on pollution control equipment.

**7.4. Greenhouse Gas Registration and Reporting**

The permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215.

**7.5. Notice of Change of Ownership or Company Name**

The permittee must notify DEQ in writing using a Departmental "Permit Application Form" within 60 days after the following:

a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or

b. Sale or exchange of the activity or facility.

**7.6. Construction or Modification Notices**

The permittee must notify DEQ in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;

b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or

c. Constructing or modifying any air pollution control equipment.

**7.7. Where to Send Reports and Notices**

The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 8.3.

# 8.0 ADMINISTRATIVE REQUIREMENTS

| | | |
|---|---|---|
| **8.1.** | **Permit Renewal Application** | **The completed application package for renewal of this permit is due on 06/01/2019.** Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in condition 8.3. |
| **8.2.** | **Permit Modifications** | Application for a modification of this permit must be submitted not less than **60** days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department (see Condition 9.4). |
| **8.3.** | **Permit Coordinator Address** | All notices and applications (not requiring associated fees) should be sent to the attention of the Permit Coordinator of the Department's Northwest Regional Office. The address is as follows:<br>Department of Environmental Quality<br>Attn: AQ Permit Coordinator<br>Northwest Region<br>2020 SW 4th Avenue, Suite 400<br>Portland, OR 97201-4987<br>Telephone: (503) 229-5582 |
| **8.4.** | **DEQ Regional Office** | Unless otherwise notified, submit all reports (source test plans and source test reports; annual, semi-annual, etc.) to the DEQ office noted below.<br>Department of Environmental Quality<br>Northwest Region - AQ Section<br>2020 SW 4th Avenue, Suite 400<br>Portland, OR 97201-4987<br>503-229-5263 |
| **8.5.** | **Department Contacts - General** | All inquiries about this permit should be directed to the regional office identified in Condition 8.4 |
| **8.6.** | **Department Contacts - Internet** | Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.oregon.gov/deq<br>. |

| | | |
|---|---|---|
| **8.7.** | **EPA Administrator Address** | US Environmental Protection Agency<br>Director, Air and Waste Management Division<br>1200 Sixth Avenue<br>Seattle, WA 98101 |

## 9.0 FEES

| | | |
|---|---|---|
| **9.1.** | **Annual Compliance Fee** | The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Standard ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined DEQ regulations will be mailed prior to the above date. **Late fees in accordance with Part 4 of the table will be assessed as appropriate.** |
| **9.2.** | **Change of Ownership or Company Name Fee** | The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company. |
| **9.3.** | **Special Activity Fees** | The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit. |
| **9.4.** | **Where to Submit Fees** | Fees must be submitted to:<br>Department of Environmental Quality<br>Accounting Office<br>811 SW Sixth Avenue<br>Portland, Oregon 97204-1390 |

## 10.0 GENERAL CONDITIONS AND DISCLAIMERS

| | | |
|---|---|---|
| **10.1.** | **Permitted Activities** | This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked. |
| **10.2.** | **Other Regulations** | In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ. |
| **10.3.** | **Conflicting Conditions** | In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply. |

**10.4. Masking of Emissions**

The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.

**10.5. Department Access**

The permittee must allow DEQ's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.

**10.6. Permit Availability**

The permittee must have a copy of the permit available at the facility at all times.

**10.7. Open Burning**

The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.

**10.8. Asbestos**

The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.

**10.9. Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

**10.10. Permit Expiration**

a. A source may not be operated after the expiration date of the permit, unless any of the following occur prior to the expiration date of the permit:

   i. a timely and complete application for renewal or for an Oregon Title V Operating Permit has been submitted, or

   ii. another type of permit (ACDP or Oregon Title V Operating Permit) has been issued authorizing operation of the source.

b. For a source operating under an ACDP or Oregon Title V Operating Permit, a requirement established in an earlier ACDP remains in effect notwithstanding expiration of the ACDP, unless the provision expires by its terms or unless the provision is modified or terminated according to the procedures used to establish the requirement initially.

**10.11. Permit Termination, Revocation, or Modification**

DEQ may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

# 11.0 AUTHORIZATION TO CONSTRUCT

**11.1. Construction Activities**

This permit allows the permittee to construct and operate the following listed additional emission sources to be used at the transloading facility:

a. Four (4) new 108,000-barrel (4.5 MMGal) internal floating roof volatile organic liquid storage tanks;

b. Two (2) new 36,000 gallon closed-system process tanks (pressure vessels);

c. One (1) vapor combustion unit (VCU); and

d. Pumps, piping, and other ancillary equipment necessary to support the new tanks and VCU.

# 12.0 EMISSION FACTORS

| Process | Pollutant | Monitoring Parameter (P) | Emissions Factor (EF) | Emissions Factor Units |
|---|---|---|---|---|
| Crude Oil Storage Tank(s) (FS01) | VOC | Gallons of throughput for a respective calendar month period | Use TANKS software or AP-42 algorithms for 12-month emission rate calculation | lb/month |
| Ethanol Storage Tank(s) (FS01) | VOC | Gallons of throughput for a respective calendar month period | Use TANKS software or AP-42 algorithms for 12-month emission rate calculation | lb/month |
| Other Volatile Organic Liquid Storage Tank(s) (FS01) | VOC | Gallons of throughput for a respective calendar month period | Use TANKS software or AP-42 algorithms for 12-month emission rate calculation | lb/month |
| Marine Vessel Loading (EP01-VRU) | VOC | Gallons volatile organic liquid product loaded | 0.084 | lbs/$10^3$ gal loaded |
| Marine Vessel Loading (EP01/EU01&02-VCU) | VOC | Gallons volatile organic liquid product loaded | 0.027(1) | lbs/$10^3$ gal loaded |
| | $PM/PM_{10}/PM_{2.5}$ | Gallons volatile organic liquid product loaded | 0.001 | lbs/$10^3$ gal loaded |
| | $SO_2$ | Gallons volatile organic liquid product loaded | 0.005 | lbs/$10^3$ gal loaded |
| | $NO_X$ | Gallons volatile organic liquid product loaded | 0.004(1) | lbs/$10^3$ gal loaded |
| | CO | Gallons volatile organic liquid product loaded | 0.002(1) | lbs/$10^3$ gal loaded |
| Equipment Leaks (FS02) | VOC | Equipment leak constant | 33.3 | lb/month |
| Storage Tank Roof Landings and Degassing | VOC | Landing and degassing event constant | 5,583 | lb/event |
| Loadout Fugitives (leaks) (FS03) | VOC | Gallons volatile organic liquid product loaded | 0.017 | lbs/$10^3$ gal loaded |
| Process Tank Fugitives (FS04) | VOC | Process tank degassing | 2,538 | lb/event |

(1) Emission factor must be revised to reflect the measured emission rates demonstrated in each valid source test. After multiple source tests have been performed, the assumed emission factor is to be based on an average of the measured emission rates from all valid source test runs, provided the conditions during the respective source tests are sufficiently similar.

# 13.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

| | |
|---|---|
| ACDP | Air Contaminant Discharge Permit |
| ASTM | American Society for Testing and Materials |
| AQMA | Air Quality Maintenance Area |
| calendar year | The 12-month period beginning January 1st and ending December 31st |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| $CO_2e$ | carbon dioxide equivalent |
| DEQ | Oregon Department of Environmental Quality |
| dscf | dry standard cubic foot |
| EPA | US Environmental Protection Agency |
| FCAA | Federal Clean Air Act |
| Gal | gallon(s) |
| GHG | greenhouse gas |
| gr/dscf | grains per dry standard cubic foot |
| HAP | Hazardous Air Pollutant as defined by OAR 340-244-0040 |
| I&M | inspection and maintenance |
| lb | pound(s) |
| MMBtu | million British thermal units |
| NESHAP | National Emissions Standards for Hazardous Air Pollutants |
| $NO_X$ | nitrogen oxides |
| NSPS | New Source Performance Standard |
| NSR | New Source Review |
| $O_2$ | oxygen |
| OAR | Oregon Administrative Rules |
| ORS | Oregon Revised Statutes |
| O&M | operation and maintenance |
| Pb | lead |
| PCD | pollution control device |
| PM | particulate matter |
| $PM_{10}$ | particulate matter less than 10 microns in size |
| $PM_{2.5}$ | particulate matter less than 2.5 microns in size |
| ppm | part per million |
| PSD | Prevention of Significant Deterioration |
| PSEL | Plant Site Emission Limit |
| PTE | Potential to Emit |
| RACT | Reasonably Available Control Technology |
| scf | standard cubic foot |
| SER | Significant Emission Rate |
| SIC | Standard Industrial Code |
| SIP | State Implementation Plan |
| $SO_2$ | sulfur dioxide |
| Special Control Area | as defined in OAR 340-204-0070 |
| Unit Conversion | 1 pound/square inch = 6.89475728 kilopascal |
| VE | visible emissions |
| VOC | volatile organic compound |
| year | A period consisting of any 12-consecutive calendar months |